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State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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NO. P 905-518-296

13 MAR 1991

Cris Anderson, Manager
Environmental Affairs
L.E. Carpenter Company
1301 E. Ninth Street, Suite 3600
Cleveland, OH 44114

Dear Mr. Anderson:

Re: L.E. Carpenter ACO, dated September 26, 1986
Supplemental RI dated November 1990
Comments on L.E. Carpenter Response (1 February 1991)

The New Jersey Department of Environmental Protection (Department) has reviewed L.E. Carpenter's response to its comments on the above referenced project and feels that follow-up comments are needed.

The Department's hydrogeologist is concerned with the often discussed subjects of ground water flow direction and BN contamination in the Rockaway River.

The comments are verbatim.

1. Section 2, "Findings", point b. Weston continues to insist that the VO contamination found in monitoring wells installed on the Air Products and Wharton Enterprises properties do not originate from the L.E. Carpenter Site. Weston, in its reply, states that the ground water flow direction makes it infeasible for contaminants to arrive at MW 13S, for example, installed on the Air Products facility portion of the Site. Inspection of figure 16, "Shallow Water level Contour Map-10/13/89", in the Revised Report of Remedial Investigation Findings (Vol 1), June 1990 and Figure 2, "Shallow Zone-Piezometeric Water Level Contours-9/17/90", of the latest available quarterly report (Third Quarter-1990 Progress Report) indicates a flow component toward MW-13S from the L.E. Carpenter Site. This may explain the VO contaminants found in this well. This flow direction appears to

be true of the intermediate zone as well (Figure 19 of the Revised RI). The deeper portions of the aquifer appear to be unimpacted. Deep flow direction, although not necessarily as critical, suggests flow toward Air Products also. Deep flow direction was calculated by the writer from consultant provided water level data.

2. Section 3, "Results", point d. Weston disagrees that ground water BN contamination is accumulating in Rockaway River sediments because ground water flow is away from the river. Weston thus feels that sediment sampling is unnecessary. As was pointed out to Weston in numerous memos, ground water gradients away from the river are slight or nearly flat. Small changes in water levels, due to diminished precipitation, at the dammed Washington Forge Pond could permit ground water flow reversal back toward the river. This may explain the observed BN in the river samples. NJDEP recommended that Weston consider this possibility in any proposed remedial strategy. Deeper sediment sampling was proposed to verify or test this scenario.

   Weston's explanation for the BN sediment contamination is implausible. If BN is due to upstream sources, as Weston contends, then why was it not detected in sediment samples taken at Washington Forge Pond, immediately upstream of the site? How can overland contaminant transport across the site deposit BN in the river sediments if the site slopes away from the river? Weston should rethink the above points and reconsider NJDEP's request for BN sediment sampling in the river.

The technical coordinator is concerned with off-site wells, ground water contamination on the Air Products property, the need to delineate further the product plume on the Wharton Property and the need to sample Rockaway River sediments.

1. Section 1, Site Description

   The Department is still awaiting a report on the status of three off-site wells identified in the RI.

2. Section 2, Findings, point b

   It has been previously pointed out to Weston that the trace ground water contamination detected in MW-13s on Air Products property is believed to have originated from the L.E. Carpenter site. The Department maintains it's position, since Weston has not presented an acceptable justification to the contrary.

   The 1986 ACO signed by L.E. Carpenter clearly shows that the contamination detected in MW-13s is in fact related to L.E. Carpenter operations, specifically the chemicals placed in the former waste impoundment and tank farm area. These same compounds, namely; methylene chloride, trichloroethene, tetrachloroethene and toluene have also been detected in on-site monitoring wells, (refer to DEP August 18, 1980 sampling data).

Furthermore, a recent Departmental review and inspection of Air Products operations did not indicate Air Products to be the source of contamination in MW-13.

L.E. Carpenter's contractor, Weston, has suggested that the contaminated ground water may be, in part, discharging to the drainage ditch that follows the approximate property boundary between Air Products and the L.E. Carpenter site, (and the ditch may be acting as a barrier to shallow ground water flow beneath the drainage ditch to MW-13). Although the drainage ditch may currently be receiving ground water discharge, historical aerial photos depict a drastically different topography and surface drainage features, which does not include the present ditch. According to 1964 aerial photos, the area northeast of L.E. Carpenter (presently Air Products property) appears to have been a Palustrine wetland. However, during the development of the Air Products facility (between 1968 and 1970) the entire area was filled, which accounts for the currently existing drainage feature at the perimeter of the Air Products property. The L.E. Carpenter waste impoundments may have impacted this area prior to the existence of the drainage ditch.

In order to determine the extent of the off-site ground water contamination on Air Products property, an additional monitoring well must be installed, northeast of MW-13. The Department should be consulted for the specific location.

3. Results, Point a

The Department stands firm with its contention that the free product plume and associated ground water contamination on Wharton Enterprises property has not been sufficiently delineated. On a recent site visit (2-20-91) a sheen was observed on the standing water at the location of TP-89. As previously stated, L.E. Carpenter must propose a plan to delineate the free product plume and ground water contamination on the Wharton Enterprises property. At least one additional monitoring well must be installed on the Wharton Enterprises property. The Department Hydrogeologist should be consulted to determine the appropriate location. In addition, Weston must sample along the abandoned sewer line in order to determine the extent of contamination suspected at this location.

4. Rockaway River Sediments, Point d

L.E. Carpenter insists that the BN contamination present in the on-site ground water is not accumulating in the Rockaway River sediments, although no other source has been identified to explain the elevated levels of BN contamination in the sediments.

L.E. Carpenter must propose sediment sampling in the Rockaway River as previously indicated.

Please respond within ten (10) working days with your remedies for the above mentioned issues. Should you have any further questions, you may contact me at (609) 633-1455.

Very truly yours,

E. G. Kaup

Edgar G. Kaup, P.E., Case Manager
Bureau of Federal Case Management

kj

c: G. Blyskun, BGWPA
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